

### Features

- 1 sets of 20A switching capability, 2 sets of 10A switching capability
- The contact on and off can be controlled by the hand control switch
- With manual operation and position indicator
- UL insulation system:Class F
- Environment-friendly product (RoHS compliant)
- Outline Dimensions:(37.7×13×25)mm



### CHARACTERISTICS

Specifications	Item				
Contact Data	Contact arrangement		1B		2C
	Contact resistance(initial)		≤50mΩ(6VDC 1A)		
	Contact material		AgSnO <sub>2</sub>		
Rated value	Rated load (Resistance load)		20A 250VAC		8A 250VAC
	Max.switching voltage		277VAC		250VAC
	Max.switching current		20A		10A
	Max.switching capacity		5000VA		2500VA
	Min.allowing load		5VDC 100mA		
Electrical performance	Insulation resistance(initial)		1000MΩ(500VDC)		
	Dielectric strength (initial)	Between open contacts	1000VAC,1min		
		Between contact sets			2000VAC,1min
		Between coil&contacts	4000VAC,1min		
	Set time		≤10ms		
	Reset time		≤10ms		
Mechanical performance	Shock resistance	Functional	98m/s <sup>2</sup> (10G)		
		Destructive	980m/s <sup>2</sup> (100G)		
	Vibration resistance		10Hz～55Hz 1.5mm DA		
Endurance	Mechanical		1×10 <sup>6</sup> ops		
	Electrical(Room temperature)		20A 250VAC 3×10 <sup>4</sup> ops(ON/OFF=1s/9s)		8A 250VAC 3×10 <sup>4</sup> ops(ON/OFF=1s/9s)
			16A 265VAC 3×10 <sup>4</sup> ops(ON/OFF=1s/9s)		
			10A 440VAC 3×10 <sup>4</sup> ops(ON/OFF=1s/9s)		
			5A 440VAC cosφ=0.4 3×10 <sup>4</sup> ops(ON/OFF=1s/9s)		
Operate condition	Ambient temperature		-25℃～70℃		
	Humidity		5% to 90%		
Termination			PCB		
Unit weight			Approx.25g		
Construction			Plastic sealed,Flux proofed		

## COIL DATA(23℃)

### Single coil latching

Nominal Voltage	Set Voltage VDC	Reset Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 5V	≤3.75	≤3.75	150mA	33.3Ω	750mW	DC 7.5V
DC 12V	≤9.00	≤9.00	62.5mA	192Ω		DC 18V
DC 24V	≤18.00	≤18.00	31.25mA	768Ω		DC 36V

### Double coils latching

Nominal Voltage	Set Voltage VDC	Reset Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 5V	≤3.75	≤3.75	300/300mA	16.7/16.7Ω	1500mW	DC 7.5V
DC 12V	≤9.00	≤9.00	125/125mA	96/96Ω		DC 18V
DC 24V	≤18.00	≤18.00	62.5/62.5mA	384/384Ω		DC 36V

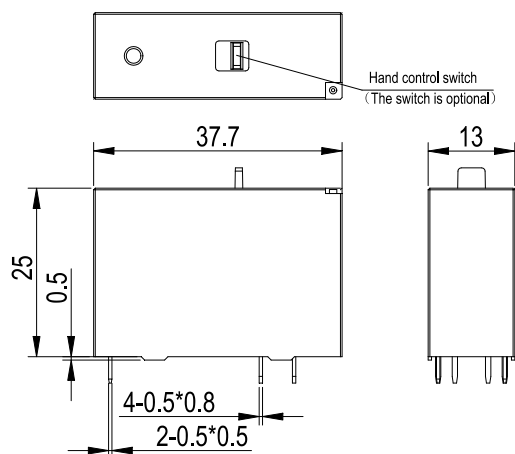
## ORDERING INFORMATION

	<b>FH47L</b>	<b>-1B</b>	<b>S</b>	<b>T</b>	<b>M</b>	<b>-L1</b>	<b>R</b>	<b>-XXX</b>	<b>DC12V</b>
① Type									
② Contact arrangement: 1B=1 close contacts 2C=2 switched contacts									
③ Construction(1): Nil=Flux proofed, S=Plastic sealed									
④ Contact material: T=AgSnO <sub>2</sub>									
⑤ Control type: Nil=No hand control switch, M=Within Manual Switch (Plastic sealed type are unavailable)									
⑥ Coil type: L1=coil latching, L2=coils latching									
⑦ Operation polarity: Nil=standard polarity R=reversed polarity									
⑧ Customer special code: numbers or letters denote customer's requirements									
⑨ Coil specification: DC5/12/24V									

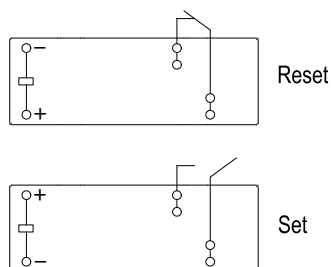
- (1) When used in clean environment(excluding H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Plastic sealed.

## ■ OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

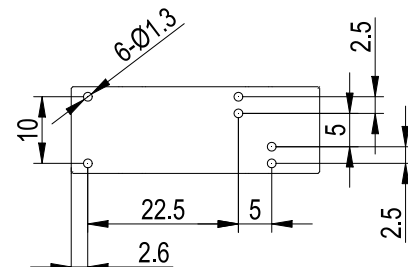
**1B** Outline Dimensions  
(Single coil latching)



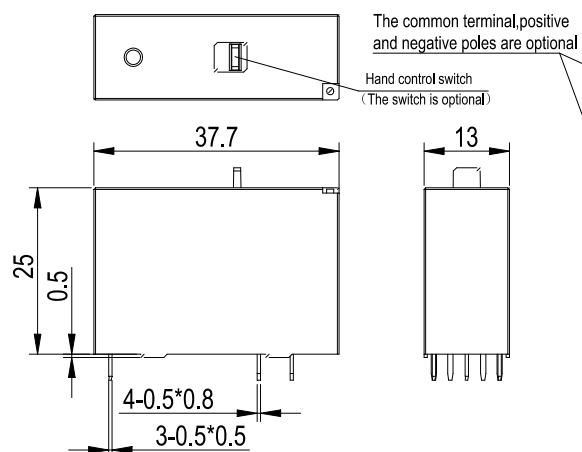
Wiring Diagram  
(Bottom view)



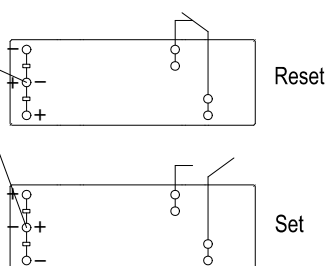
PCB Layout  
(Bottom view)



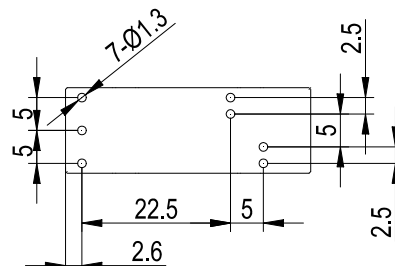
**1B** Outline Dimensions  
(Double coils latching)



Wiring Diagram  
(Bottom view)

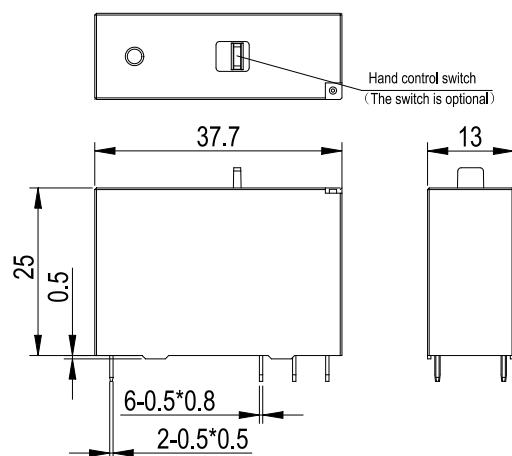


PCB Layout  
(Bottom view)

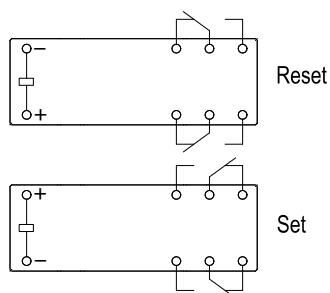


## ■ OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT (Unit:mm)

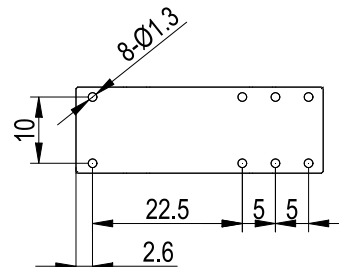
**2C** Outline Dimensions  
(Single coil latching)



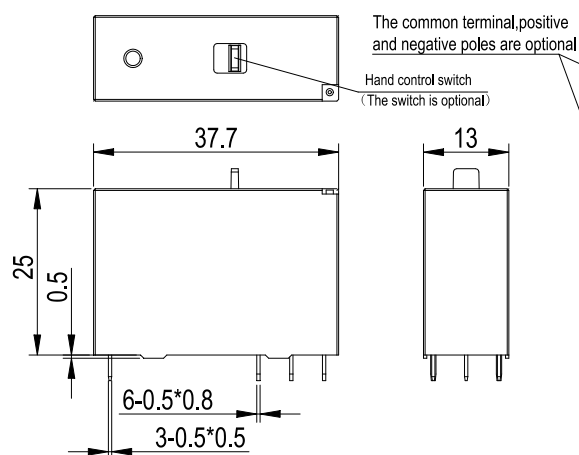
Wiring Diagram  
(Bottom view)



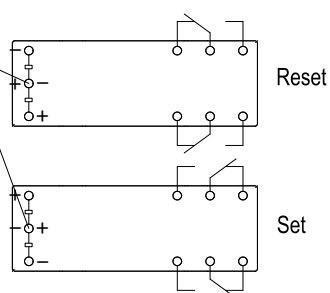
PCB Layout  
(Bottom view)



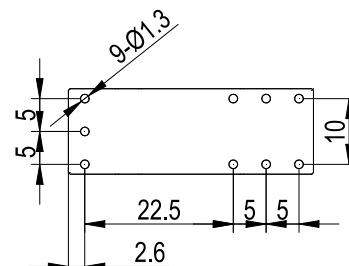
**2C** Outline Dimensions  
(Double coils latching)



Wiring Diagram  
(Bottom view)



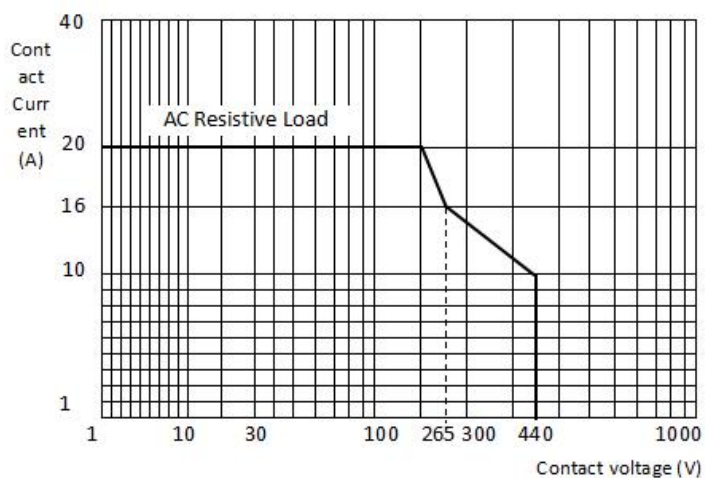
PCB Layout  
(Bottom view)



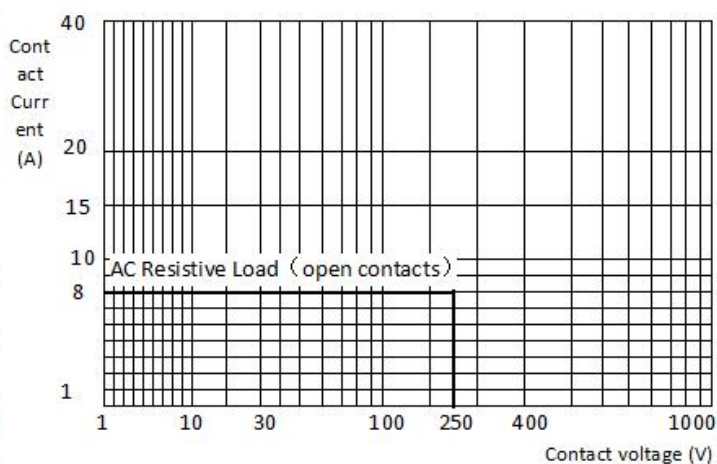
Remark: (1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $< 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $\geq 5\text{mm}$ , tolerance should be  $\pm 0.5\text{mm}$ .  
(2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

## PERFORMANCE CURVES

1B-MAXIMUM SWITCHING POWER



2C-MAXIMUM SWITCHING POWER



## NOTICE

- ① With the consideration of shock risen from transit and relay mounting, relay's initial state might be changed ,please impose pulse voltage to reset the relay before using (rated coil voltage, impulse width  $\geq 5$  times operation time).
- ② In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;
- ③ In order to maintain the "set" or "reset" status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than "set" or "reset" time. Do not energize the voltage to "set" coil and "reset" coil simultaneously.
- ④ The specification is for reference only. Specifications subject to change without notice.